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BAR-LE-DUC

Reconstruction in Northern France—V

The Future

By RALPH FANNING

STANDING in the doorway of a tiny wooden barrack, talking with the owner of this poor though much appreciated substitute for his once pretentious dwelling and gazing out across the broad fields still bearing the marks of a cruel devastation, as one listens to one's garrulous host telling of the beauty of the various spots, of the adjacent village and neighboring fields "avant la guerre," one tries to visualize the future of the massacred regions of Northern France. Having traversed the devastated regions of the old battle lines, and having been deeply impressed or perhaps depressed by the breadth and magnitude of material destruction, the like of which had probably never been witnessed before the Great War, and with the compelling force of vivid contrasts, having recalled the peace and prosperity of these regions in their pre-war days, one wonders what the future will bring forth. Even with the plucky attempts made by the returning refugees to begin life over under the most trying of living conditions, what will Time, galloping over the next ten or twenty years, do for the stricken areas of Northern France? In what form and in what style will be the buildings that are to take the place of the 600,000 destroyed homes? What shape and plan will be that of the new villages that supplant the picturesque old ones as the waste areas again come under the constructive rule of Peace?

Prophets are not without honor except when making their forecasts on the devastated fields them-

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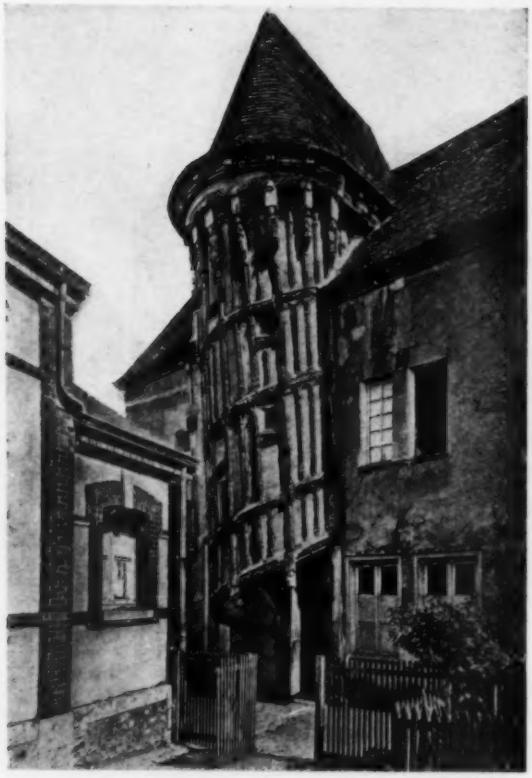
selves where, surrounded by all the chaotic destruction, it is often difficult for the most optimistic to predict any very rapid reclamation. Especially is the prophet apt to command no great credit among those who have not learned to appreciate the many sterling qualities of the French peasant makeup. There has been much criticism of the way that the French have undertaken their gigantic tasks of reconstruction with unfavorable comparisons with the work in Belgium. It cannot be denied by anyone who has had to unsnarl a way through the entangled meshes of French official red tape, and has seen the suffering and discouragement that delay and apparently useless politics inflicted, that there have not been times when one was apt to say most uncom-



CHARTRES—STAIRWAY OF QUEEN BERTHA

plimentary things about Gaelic business methods and political systems.

When immediately after the armistice, the government refused British and American aid for permanent reconstruction, France hoped to promote her home industries, although it seems that she could not have realized her exhausted state nor foreseen the rapid depreciation in the value of her currency. She expected the Germans to supply the necessary labor. The days of the Pharaohs are past and slave labor has long since been proved to be non-productive. To date the Germans have done practically nothing although it must be stated in justice to the groups of German prisoners allowed for the building work in the Meuse, that more capable, willing and industrious workers would have been hard to obtain, once

BOURGES—BIRTHPLACE OF JACQUES-COEUR

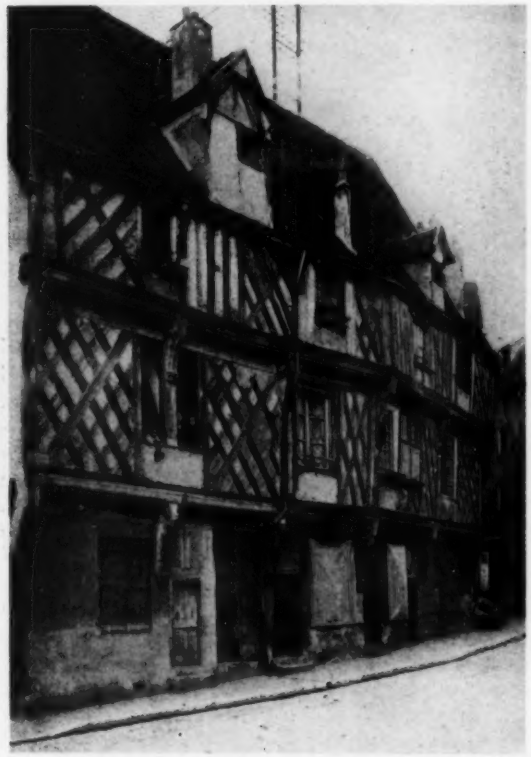
sustaining rations and some degree of humanity were granted them. It now seems that if there is to be any very rapid reconstruction, it must come through foreign assistance. Nor is this any disparagement to the French people at large when one considers what the nation has been through during these years of struggle. One must needs turn from censure to admiration when thoroughly considering what they have withstood and of what they have given many proofs of being able to accomplish. No country involved in the war, not even Belgium, had to withstand the magnitude of suffering that was inflicted upon France. Many a French village of the devastated regions had hardly a male citizen of military

age returning to take up the fight of peace times. Consider the miles of occupied and contested territory through the valleys of the Somme and Oise, the Ainse and the Marne. Think of the railroads alone of which eight hundred miles were still to be reconstructed on the first of last May. Without means of transportation, any reconstruction work could progress but slowly. Not dwelling further upon the vastness of the problem, one may look for hope for the future and find it in the toiling figures of the fields, that, reminiscent of Millets' paintings,

VITRY-LE FRANCOIS—THE BARRACKS

are everywhere seen trying to gather something from the thorny aftermath of war. Forgetting the unpleasant experiences with cumbersome officialdom and profiteering "entrepreneurs," one may take hope in the remembrance of the acquaintance with cultured and refined old men and women, accustomed to pre-war culture, wealth and leisure, coming back to their old homes with only their pluck and gentility left, there to undertake with their own hands the sordid tasks of cleaning and repairing their demolished homes.

From an architectural viewpoint, some hope for the future may be gleaned by a visit to the drafting rooms of the department of "Regions Libérees" at Bar le Duc, Châlons or other "prefectures" where draftsmen are busy on village plans and property lines. More hope for the three dimensional progress may be obtained by a visit to bustling Rheims or to secluded Grand Prè, to cite two specific instances of very different places where the work of permanent reconstruction has already begun. Rheims before the war had a population of more than 125,000 souls, living in some 17,000 houses. By the latter part of the summer of 1918, the city was supposedly evacuated of all civilian population and, of the homes, but few were undamaged beyond much hope of repair. By the beginning of 1920, little more than a year after the cessation of hostilities, twenty-five thousand people were reported back within the mutilated city and organized rebuilding was well under way. While retaining the essential project of



HOUSE IN CHARTRES—XV. CENTURY

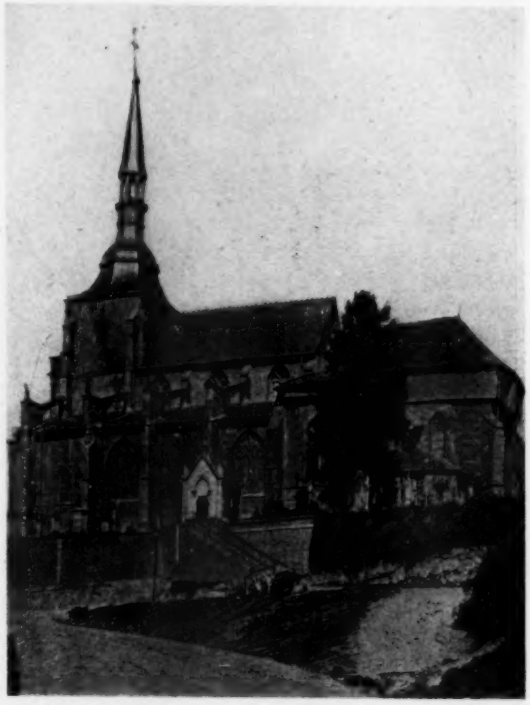
the old city plan with its admirable squares, plans are being executed to unite the railroad stations for more efficient communication than the old plan afforded; to improve the location of the market-

BAR-LE-DUC—THE CLOCK TOWER

places; to open up the vistas toward the cathedral whose towering grandeur, shut off since mediaeval days by the encroaching buildings, was, in a way, more thoroughly appreciated after the leveling of the entourage. The city will for generations to come retain the ugly scars of battle, but a few years are pretty certain to see Rheims intact and prospering. With its crowds of tourists on their pilgrimage to the heroic cathedral and its location in the midst of rich though sadly uprooted vineyards, it is bound to recuperate, although its buildings must necessarily show the effects of inartistic haste and dearth of the substantial building materials of old, while the quaint old historic houses can never be reproduced.

Compared with such a famed and easily accessible town as Rheims, the fate of the smaller secluded village is not likely to be as happy. Yet, Grand Prè in the Ardennes may be cited as an example of one from many of the more remote villages that are taking on new life. Here a new village has been laid out with straight streets and open places to substitute for the compact dwellings that bordered the curved streets of the old town. A model schoolhouse with ample play-ground to take the place of the former cramped école, and fresh air and cleanliness are items to be considered as never before, thanks to the new institutions of district nursing and public welfare. These are but two very different examples cited from the many places where the work of rebuilding is progressing.

The story may be heard if one talks with some old patriarch about the Marne Town of Vitry-le-Francois of how the place won its name in the XVIth century, as well as how it was saved from destruction by the integrity and diplomacy of the mayor and curè when they were taken as hostages by the late enemy. Whether the story of the name be authentic or not, it is illustrative of the typical home devotion of the inhabitants of Northern, and perhaps as justly stated, all of France. It seems that Francis I, "Pére des Lettres," who has come down in history as a most energetic and progressive builder, had pet schemes of town planning that would rival in beauty and order many of our gardenesque plans of today. By his orders and under



THE ARGONNE—CHURCH IN SERVON, 1914

his directions, was laid out the new town of Vitry with model symmetry and harmony to replace the older Vitry that had incurred his majestic dislike.

In spite of the great public square, covered market and imposing facades offered them by the royal builder of the new Vitry, the people of the older town were loath to forsake their accustomed homes and tried manner of living. So stubborn were they in their resistance that in order to compel them to move, Francis had the homes of the old village burned one by one, thus forcing the villagers to move over to the new. Still they would not be content with the new village in name, but called it Vitry-le-Francois to differentiate it from the old Vitry-le-Brûlé, (Vitry the Burnt). The hundreds of French towns which have been forced to seek new character by even more drastic methods than those employed by the Valois king, have not the newly modeled quarters awaiting their reception, yet it is to be wondered at how great an extent they will be enabled to cling to their old styles and tradition of building.

Architectural design, if it be virile and vital, must ever mirror the conditions of time and place and masters and means that make for its creation. As a natural development, perhaps it is not safe to hope for a much different style of building than is to be seen in the other recent architectural developments in France. Perhaps it is unreasonable to expect other than machine made goods from factory system of production. Greek curves could hardly be the expected output of a concrete mixer, nor is it more logical to expect the subtle curves of village streets, the natural picturesqueness of uneven rows of houses with lines and tones mellowed by centuries, to be obtained by an emergency housing program put through in minimum time under present labor conditions. Even if the old lines were retained, the newer, lighter and more machine-made construction would not have the same charm as the old, but

MINAUCOURT AFTER A BOMBARDMENT

would be apt to suggest the artificial and theatrical. So to a degree, the housing problem of Northern France as far as design goes is much the same as the housing problems the world over;—especially in all the countries where the more natural course of events has been interrupted by the World War, is there a demand for new and better homes.

The devastated areas of France have the advantage of offering artistic prototypes and charming architectural traditions to the future builder if he is capable of adapting the old style to a logical construction in new material and with modern labor. It is to be hoped that the people themselves will appreciate the wealth of their artistic inheritance and cling to it as their ancestors have clung to their old homes and family traditions. May the examples of the old style, relics of which remain in nearly every community, furnish keynotes for the remodeled scenes which are gradually to take the place of the old. May the new villages grow up in conformation to all the new teachings,—co-operation, sanitation, and advantageous public and private institutions that the years of war occasionally forced upon the people in exile, but as they develop, with all these, may there still be retained that individuality and naivete, characteristic of older days.

With families again united, French homes are sure to revive: with church and school again filled, something of the old order will be continued: with farms and industries re-established, the old trades and manners of work are quite certain to reappear. With the soft limestone and red tiles, sapin lath and rough plaster again on hand, the painstaking French craftsman will no doubt again be able to erect simple homes of beautiful proportions, the gardeners to train their pear trees into many branched candelabrum effects and clip their planes and box into shapely geometrical forms. It is hoped that money will not be sufficient if poverty will tend toward an avoidance of the display of jig-saw skill, fancy dressed stone and distasteful combinations of the materials such as modern French building taste seems apt to favor. If only they can content themselves with relying upon their native charms and simplicity of honest construction, not mimicing the fads of the metropolis, but relying on the merits of their native costumes for the grace that is their birthright, even though trade may inflict a change of materials and hygiene suggest a more ample cut.

Such vast destruction and economic waste as have had the fields of Northern France for their theatre of action cannot be obliterated in one or perhaps many years. Many generations of future inhabitants and travellers in these areas are to be reminded by broken walls and crumbling stone of the years of savage strife. Diligent work on the part of man and friendly aid and co-operation from other nations is the pressing need. Backed by this the unceasing labor from the callous hands of the French peasant is going to be the potency which will re-create their land and make the world richer for "La belle France, encore."

XUM

The American Specification Institute

AS heretofore produced specifications have been largely the product of individual effort and as such have varied in many features that can be conventionalized so as to be common to all. Owing to a present lack of means for collecting and distributing information concerning specifications and the writing thereof, there is a needless duplication of study, research and labor on the part of specification writers. Practically all other professions are so organized that the interchange of knowledge is effected with resulting improvement in the quality of production and professional standing. It is to improve the conditions affecting the writing of specifications and to benefit by organized effort that THE AMERICAN SPECIFICATION INSTITUTE is organized. This organization is intended to be national in scope and invites co-operation of all those interested in specifications. The plan and scope of this organization follows:

I. PURPOSE

1. To increase knowledge concerning and improve the methods of writing specifications. The kinds of specifications included are those for buildings, engineering structures and all works whatsoever in which materials of construction and labor are used; for the installation and use of mechanical and sanitary apparatus and equipment; for the fabrication and installation of all furnishings and furniture; for all ornaments and ornamentation, both interior and exterior; for paving, planting, embellishing and improving of grounds and waterways; and for such other things as are produced or sold on specifications.
2. The Institute will not interfere with any of the present organizations such as
   a—The American Society For Testing Materials
   b—Kindred national and local architectural and engineering societies
   c—Manufacturers' and trade associations,

   but will endeavor to carry forward the activities of such and give additional assistance to specification writers.

II. BENEFITS TO BE OBTAINED

The architectural and engineering professions will gain through
   a—The development of specification writers
   b—The development of specifications that will eliminate cause for argument and guesswork and lower the cost of building construction by eliminating waste of labor and materials
   c—Professional recognition of specification writers

III. MEMBERSHIP

Will be composed of
1. ACTIVE MEMBERS
   a—Persons who devote their entire time or a part thereof to the writing of specifications
2. ASSOCIATE MEMBERS
   a—Persons who employ specification writers
3. HONORARY MEMBERS
   a—Testing and laboratory engineers
   b—Instructors in specification writing in architectural and engineering schools

IV. ORGANIZATION

   a—Will be governed by a constitution and set of by-laws
   b—The secretary will direct the activities of all researches, co-operation with other societies, etc., and will secure and provide answers to all inquiries of the members.

V. ACTIVITIES OF ORGANIZATION

1. Study of materials
   a—The production and physical properties of raw materials
   b—Methods of manufacturing, fabrication and finishing
   c—Relative value based on appearance, initial cost and maintenance, effect of combinations with other materials and proper materials for various types of buildings of varying grades.
2. Methods of writing specifications

A study will be made of:
   a—The means of accomplishing complete co-operation between the drawings and specifications and determining

   What methods of construction and installation should be used

   What the drawings should show or indicate

   What should be omitted for inclusion in the specifications
   b—The development of an outline or checking list
   c—The general contract conditions
   d—Specific requirements governed by local conditions

e—Use of Standard Specifications of materials as prepared by societies and manufacturers

f—The arrangement of specifications so as to conform to the sequence of construction and installation of the work

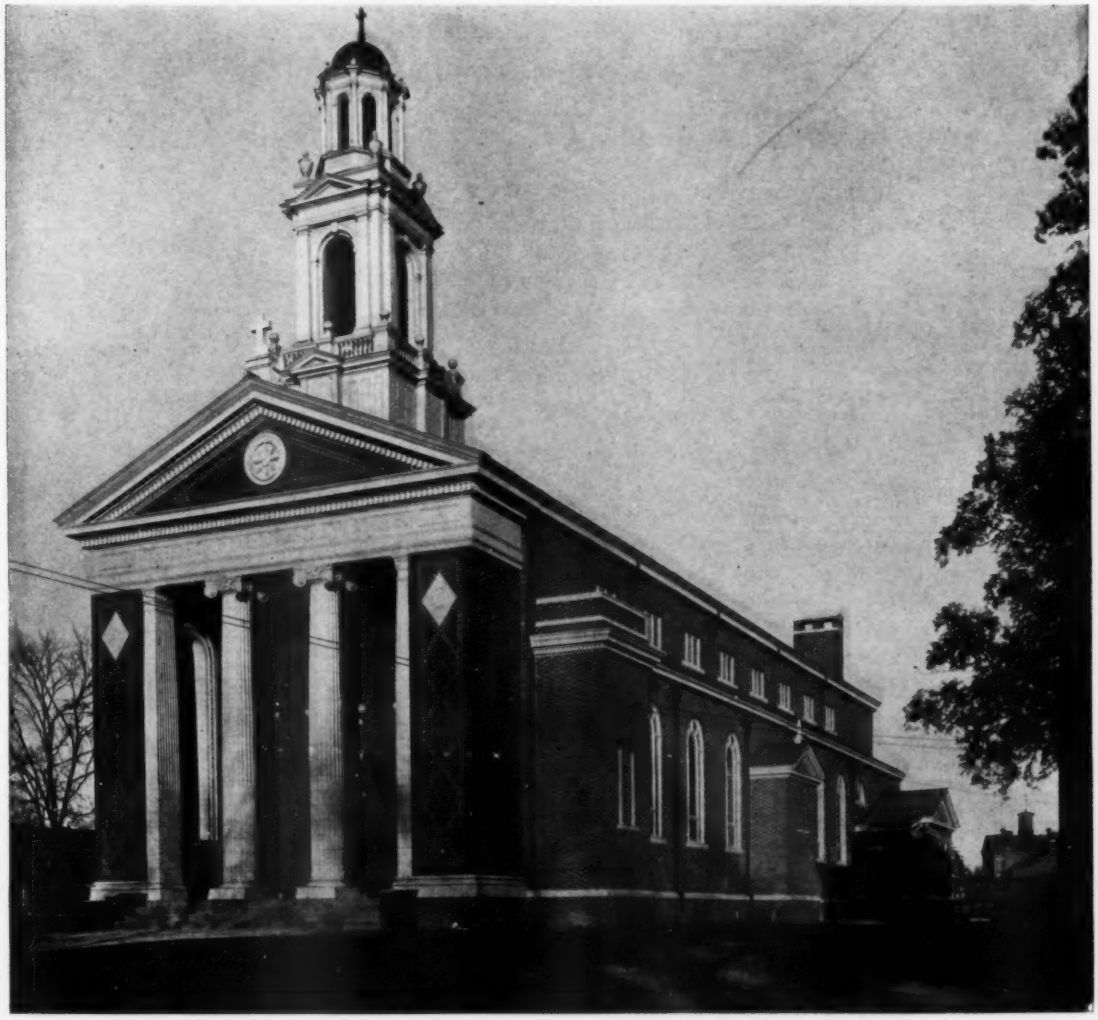
g—The writing of specifications that are clear, concise, coherent and that can be understood by the courts

h—The principles of contract law as it affects the writing of specifications

i—Possible standardization of building codes.

3. The securing of the adoption of recommended practices by the professions and others concerned
4. The deliberations of the Institute discussions, treatises by members or invited contributors and other matters will be published.

For further information, applications for membership, etc., address Organization Committee, THE AMERICAN SPECIFICATION INSTITUTE, Gardner C. Coughlen, Sec'y Pro Tem, Room 1144, American Bond & Mortgage Building, Chicago, Illinois.



CHURCH OF THE SACRED HEART, NORTHAMPTON, MASS.
JNO. WM. DONOHOE, *ARCHITECT*

The Billop House, Staten Island

(See Reproduction of Original Drawing by O. R. Eggers on Opposite Page)

THE Billop House here presented by Mr. Eggers is one of the earliest examples of American architecture. From its first beginnings it has been linked with events in American history that have endeared it as the background for many legends.

At a time back in the 1660's the Duke of York claimed Staten Island as part of the colony of New York. New Jersey also wanted possession. In order to give his decision the semblance of fairness the Duke ruled that all islands lying in or near the harbor which could be circumnavigated in twenty-four hours were to belong to New York and the others to New Jersey. In those slow old days this was a tedious process and the Duke was put to it to find a competent sailor. It was Captain Christopher Billop, in command of a small vessel, who succeeded, and this act won from the Duke of York a tract of land containing 1,163 acres.

The house here illustrated, located at Tottenville, is the oldest structure in Staten Island and was built by Billop soon after the land was presented to him in 1668. It stands a little way beyond a group of farmhouses under the shade of huge trees generations old, such as one rarely sees in this part of the world, where axes and forest fires have wrought havoc.

During the Revolution, Generals Howe, Cornwallis, Clinton, Burgoyne and others were entertained there. Under the roof of the Billop House was held the only peace conference of the Revolution, which took place on September 6, 1776. Benjamin Franklin, John Adams and Edward Rutledge had been appointed by the Continental Congress to confer with the English on the issues of the war. The house was used as a barracks during the Revolution and in the cellar there is a brick vault and dungeon, large and finely arched, which is said to have been put to stern use. It is believed that an underground passage was made at that time, leading down to the river, a distance of two hundred yards.

The gloomy tales of the dungeon, the suffering prisoners, the underground passage, are only one side of the old house's history. Gay and sparkling scenes took place above. Many a banquet did the old manor see; many a daintily brocaded lady, many a gallant, ruffled and powdered gentleman. Its rise and fall encompass perhaps every human emotion and it is one of the honored landmarks of a rich country.

BILLOP HOUSE, STATEN ISLAND, N. Y.
THE AMERICAN ARCHITECT Series of Early American Architecture

XUM

EDITORIAL

The American Specification Institute

IT is a distinct satisfaction to be able to present on another page of this issue a complete prospectus of the organization now forming to place specification writing on a plane somewhat in keeping with its importance. That comparatively few architectural offices have heretofore given this subject the attention it deserved has been readily apparent from a study of the specifications issued by them. A careful reading of the Specification Institute's prospectus leads to the belief that if the plan set forth is carried out the net result will be not only better buildings for less money, but also a definite enhancement of the architect's reputation.

THE AMERICAN ARCHITECT cheerfully pledges its support to this movement and also bespeaks the active co-operation of the profession with the group of men who have undertaken this work with no thought or possibility of personal gain. In fact it is perfectly apparent that the profession as a whole, rather than any individuals, will profit by the betterment of any of the processes by which architects procure a final result.

Greenwich Village, Los Angeles

A GROUP of men in Los Angeles, it is learned, have bought certain ground in that city where they propose to build an amusement center. There are to be one and two story reinforced concrete and brick amusement buildings, theatre, studios, art building, cafes and residences, and shopping district. This section of Los Angeles is to be called Greenwich Village.

To a New Yorker, to anyone pledged to historical accuracy, this seems a misleading and in a sense desecrating thing to do. The real Greenwich Village stands for certain traditions. One cannot successfully imitate a thing that has grown through long years, whose very history is the reason for its existence.

Yet Los Angeles is satisfied to build a series of more or less standardized reinforced concrete, modern buildings, and by usurping a time-honored name, let it appear that there is presented an honest replica of the ancient, weather-worn, picturesque structures which have been converted and reconverted to serve purposes dictated by an ever-changing populace.

There is a mental twist, a certain looseness that sanctions a misrepresentation like this. Nomenclature is useless if it is not accurate. The many dwellers on the coast who have never seen the Greenwich Village of Manhattan will be given false impressions as to what it stands for; and indeed today, it is the admixture of foreign folk with the native residents that gives Greenwich Village in New York an atmosphere which not even an honest physical duplication of surroundings can produce outside of the metropolis. Its very cosmopolitan quality is its distinguishing trait. This is felt as one saunters through New York's Greenwich Village. A subtle something that is not apparent to the eye, but that causes it to reveal a different and novel aspect with each variety of type that one happens to encounter. An Italian peasant woman transplanted, it would seem, from the sunny fields of Italy, but really living two streets away. Some little Chinese boys who had strayed from winding Doyers Street with its dilapidated yet tidy houses, and are unconcernedly washing a cat in the public drinking fountain. A short-haired girl in a painter's smock, heavy Indian beads around her neck, gazing abstractedly at a man who carries a brief case and studies the erotic captions of erotic books in an erotic shop window. A limousine which pauses before an Italian restaurant to discharge two fat women in seal coats and a gray-haired man with a silver-topped cane. A feeble, bearded Jew, bent under a huge jute bag of waste paper. All this, in Greenwich Village.

And the quaint old gabled houses, reminiscent of Dutch occupation. The stables of old Washington Square mansions now used for studios. The occasional, amusingly discordant public garage. The crooked streets laid before there was thought of a city plan. The fine doorways of private dwellings where once lived the aristocracy of a peaceful town.

An Indian Village, a large Dutch farm, a small English colony and one of the earliest American settlements—all have left their marks on Greenwich

XUM

Village in New York. Today it is the habitat of the artist, the writer, the dreamer, both the genuine and the poseur. Here come those students in art who hope to develop under the influence of metropolitan, or cosmopolitan life, the faddist and the would-be great, as well as the tried and proven artists. It is of happiness to those who cannot afford the luxury the home of happy, care-free indigence and ambition. It gives music and conversation and touches of more formal places. It gives color to many a life that would otherwise be drab.

Picture it in brand-new modern white reinforced concrete buildings, regularly laid out in cold uniformity in Los Angeles!

The Personal Equation

AN EDITORIAL BY SULLIVAN W. JONES, A.I.A.

WHAT is the matter with the individual? AT a time when we should hear the thunderous voice of the multitude demanding to know the facts—there is silence. At a time when every person should be giving his thought to the problems of reconstruction, we find instead the expression of the vast public to be indefinite, waiting for someone else to do its thinking for it. Instead of a lively interest which would seem to arise inevitably from the individual's need, we have the unlovely spectacle of legislative committees investigating conditions while the Press and the Public satisfy their appetite for sensation and scandal.

While this is the general situation there are small groups—pathetically small—of forward looking citizens, committees for research and study and a few scattered individuals with views and understanding, occasionally suggesting constructive programs, which, however, fall upon deaf ears and closed minds.

On the other hand, there is no lack of complaint and condemnation. The average individual seems to have lost his sense of responsibility for things as they are and has joined the herd in its quest for victims upon which to vent its wrath.

Individually and collectively, by both omission and commission, we are responsible for things as they are. Particularly is this true of the present paralysis affecting the building industry.

This vacuum, where there should be an impelling feeling of responsibility, this mental lethargy and lack of forethought on the part of a large number of individuals has let the building industry in New York City slip gradually into the condition of complete demoralization revealed by the investigations of the Lockwood Committee.

Similar investigations in other large cities would probably reveal the same loathsome conditions. Who is responsible? There is only one answer. The industry—the *individuals* composing the industry.

NO nation, no industry, can endure in which the individual does no thinking, in which he does not contribute his thought to the mass thought, his will to the mass will, his opinion to the mass opinion.

There are always groups of thinkers—always pitifully small—who can and do lead the unthinking crowd. But such leadership lasts only so long as there is a crowd to follow, and a crowd that will translate ideas and ideals into action. Knowledge is power only when applied. Upon the truth of that assertion rests our whole concept of education.

How many individuals realize that the rent legislation adopted by the special session of the New York State Legislature completely stifled any will there was to build on the part of those who were able to help in satisfying the public's need for housing? The problem was one of getting houses. The legislature closed the door on any possibility of a solution.

We cry out against the railway embargoes, the shortage of cars and the high rates. Does the individual ever ask why these conditions prevail or what the underlying causes really are? No. He "leaves it to George" to get the facts and do his thinking for him.

The building will never be better than it has been, and is, if we do not, all of us, apply ourselves to the improvement of conditions. To do that, we must individually do some straight thinking on the basis of facts. What do you, as an individual, think the trouble is. What do you, again as an individual, suggest as a corrective measure?

Do some thinking, and then write your thoughts to the Editor of this journal, to be used in forwarding the movement for convening the Congress of the Building and Construction Industry.

And if you did not read about that Congress and what it proposes to do, or if you *did* read of it and gave it little thought, get hold of last week's issue of THE AMERICAN ARCHITECT and turn to page 137, read carefully what is written there, and let the Editor know just what you think of the idea and its possibilities.

Do your share as an intelligent individual in a great profession!

BUILDING FOR THE AMERICAN BOOK CO., CHICAGO
N. MAX DUNNING, *ARCHITECT*

ENTRANCE DETAIL

BUILDING FOR THE AMERICAN BOOK CO., CHICAGO

N. MAX DUNNING, *ARCHITECT*

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NEWELL MEMORIAL CHAPEL
KENOSHA CEMETERY ASSOCIATION, KENOSHA, WIS.
N. MAX DUNNING, *ARCHITECT*

INTERIOR, NEWELL MEMORIAL CHAPEL
KENOSHA CEMETERY ASSOCIATION, KENOSHA, WIS.
N. MAX DUNNING, *ARCHITECT*

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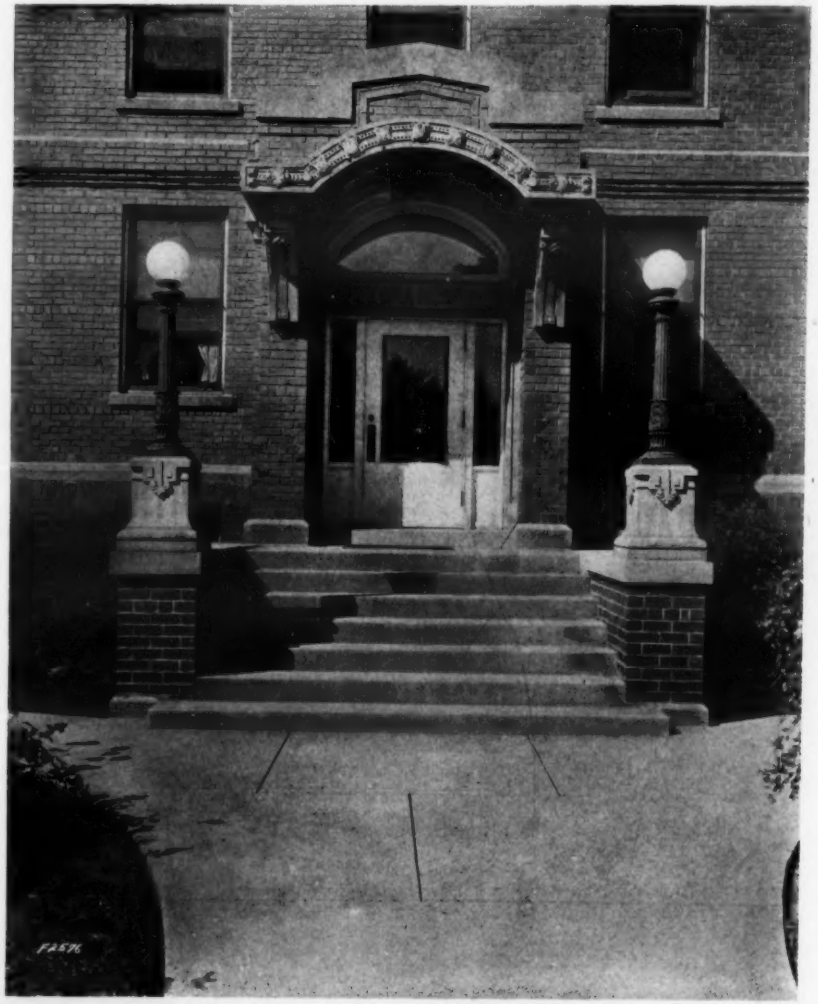
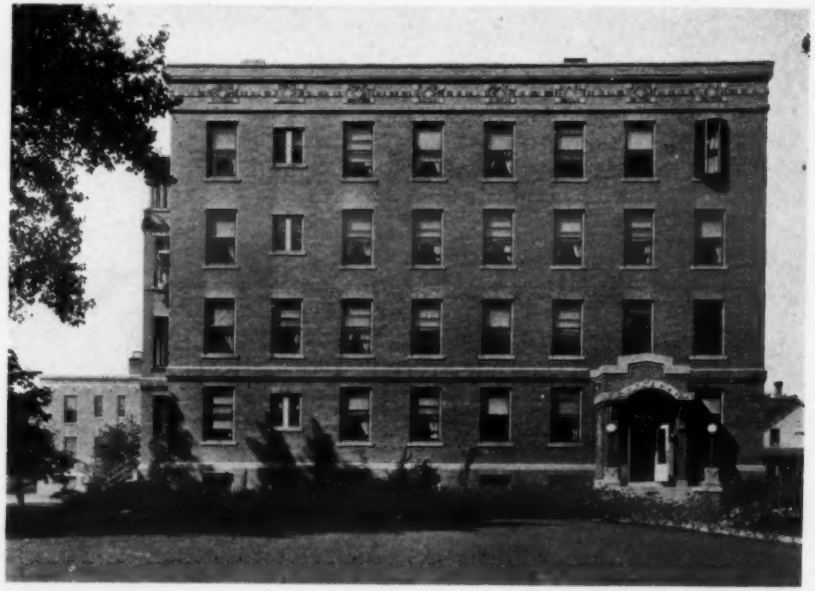




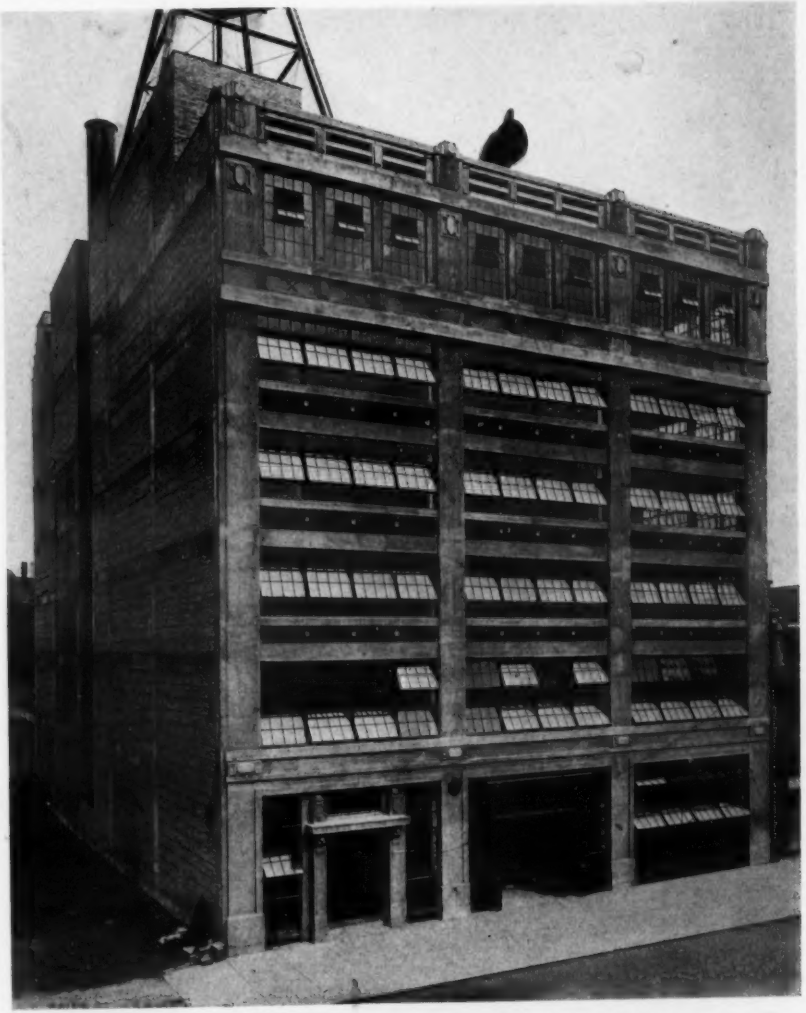
ABOVE: KENOSHA HOSPITAL, KENOSHA, WIS.
N. MAX DUNNING, *ARCHITECT*

AT LEFT: DETAIL OF MAIN ENTRANCE

MAIN ENTRANCE DETAIL

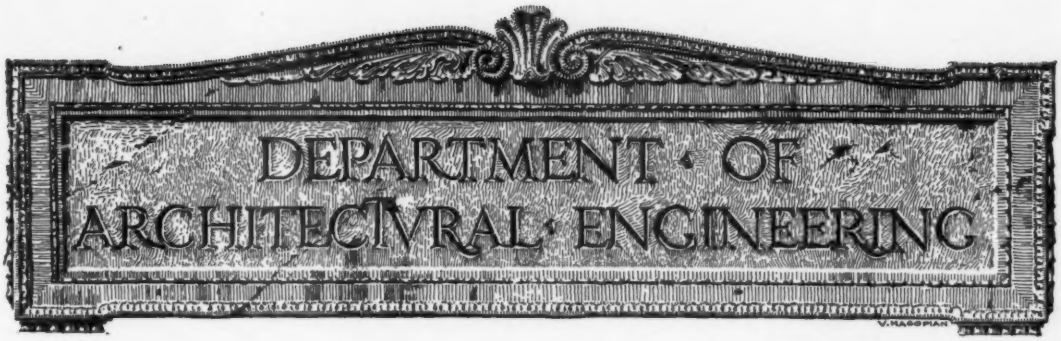
EXCHANGE BUILDING
DIXON HOME TELEPHONE CO., DIXON, ILL.
N. MAX DUNNING, *ARCHITECT*

DIXON NATIONAL BANK BUILDING, DIXON, ILL.



STROMBERG MOTOR DEVICE BUILDING, CHICAGO

N. MAX DUNNING, *ARCHITECT*



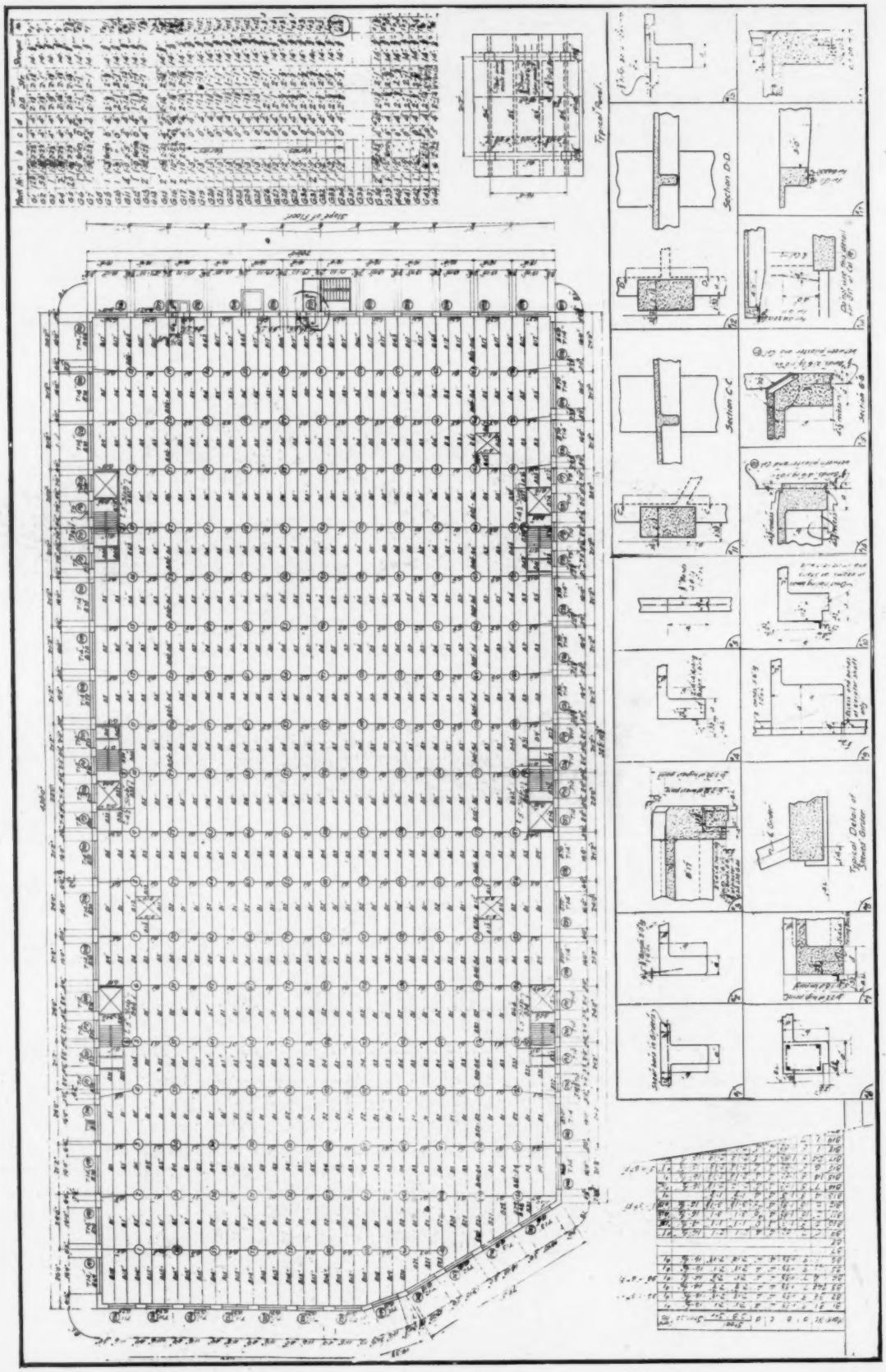
THE LOOSE-WILES BISCUIT CO. BUILDING, LONG ISLAND CITY, N. Y.
WILLIAM HIGGINSON, *ARCHITECT*

Modern Practice in Reinforced Concrete Construction

Beam and Girder Construction Exemplified in the Loose-Wiles Building

WHILE the use of concrete in building construction—and by *concrete* is meant an artificial stone produced by processes far more rapid than those employed by nature in the normal formation of rock—dates back to almost ancient times, yet only during comparatively recent years has any attempt been made to supplement this rather brittle substance with steel that it might be enabled to withstand tensile as well as compressive strains. By forming a combination of steel and concrete an all around structural material has been produced, now termed "reinforced concrete."

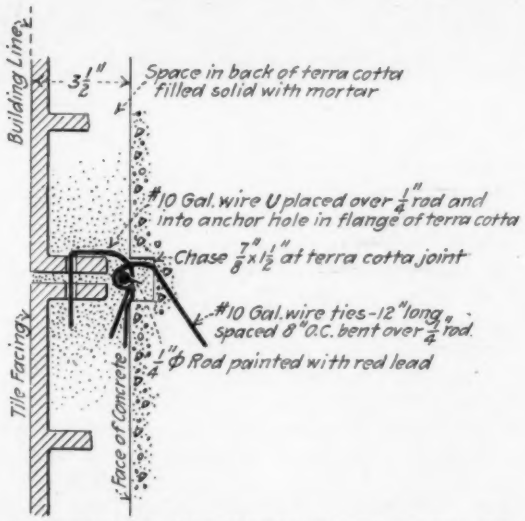
A survey of modern structures built of reinforced concrete must force the admission that a high degree of development has already taken place since the introduction of this material as a real factor in building construction. Engineers of an inventive turn of mind have here found an excellent field in



PLAN OF 6th FLOOR
Typical of framing in lower stories

which to work, and the new systems already produced lead one to believe that a yet more efficient use will be made of reinforced concrete in the not distant future. Today we have the results of extensive tests on various systems to guide us in making additional steps in advance.

It is not the purpose of these articles to describe the many special systems of construction which have made use of reinforced concrete, but rather to point out the essential features in the several general lines


Building Line
3½"
Space in back of terra cotta filled solid with mortar
#10 Gal. wire U placed over ¼" rod and into anchor hole in flange of terra cotta
Chase ⅞"x1½" at terra cotta joint
#10 Gal. wire ties-12" long, spaced 8" O.C. bent over ¼" rod.
¼" ϕ Rod painted with red lead
Tile Facing
Face of Concrete

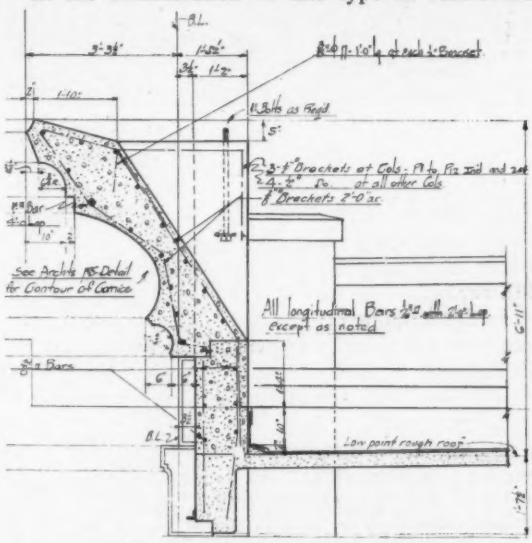
METHOD OF ANCHORING TERRA COTTA TO CONCRETE COLUMNS

along which reinforced concrete construction has been developed to date.

Precedent has played its part in such work, and we find the first reinforced concrete buildings followed closely steel design, in so far as the arrangement of the structural members is concerned. Spacing of columns, beams and girders differed little from standard practice in steel design, except that where floor loads were heavy it frequently became necessary to resort to closer column spacing to avoid either excessively deep or wide girders. This type is known as beam and girder construction. A building in which such construction was employed, and which possesses certain features of interest is here illustrated.

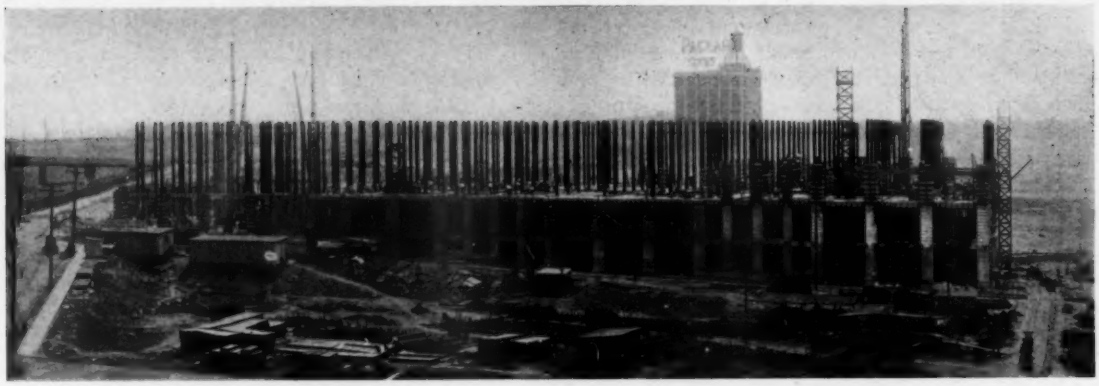
A later development brought about the girderless floor or "flat slab" type of construction, as it is now more generally termed. This form of construction will be described and illustrated in a later article.

In the consideration of this type of reinforced concrete building, reference will be made to the building of the Loose-Wiles Biscuit Company at Long Island City, N. Y., of which William Higginson was the architect. This structure was erected by the Turner Construction Company. It is the largest bakery building in the world, occupying a ground area 430 x 200 ft., and is nine stories and basement in height. A wood pile foundation was used, there being approximately 15,000 piles supporting the structure. In general the floor live loads vary



SECTION THROUGH REINFORCED CONCRETE CORNICE

VIEW SHOWING SLAB REINFORCEMENT

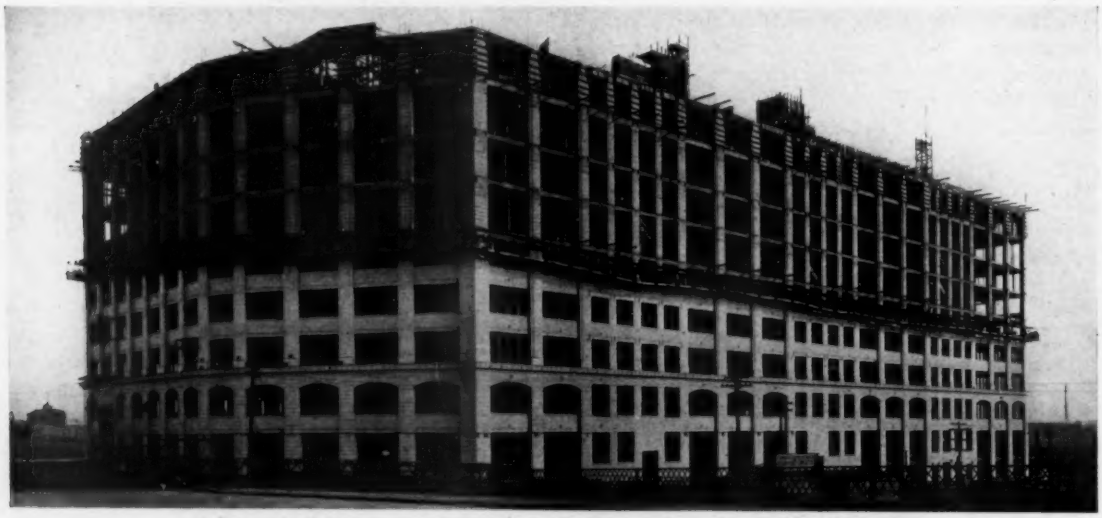


PROGRESS VIEW
Showing erection of steel columns

from 150 lbs. to 400 lbs. per sq. ft., but in the upper stories, where the English and American bake ovens are located, the live load runs as high as 2000 lbs. per sq. ft.

In this building 360 different kinds of biscuits and crackers are made, one machine alone turning out 7,3000,000 crackers of one kind daily. Some 2600 persons are employed when the plant is operating to full capacity.

A framing plan typical of the lower stories is reproduced on page 178. It will be noted that the columns are in general spaced 21 ft. 2 in. in one direction and 16 ft. 4 in. in the other. Each bay is divided into three panels by beams spanning in the long direction. By arranging the girders on the short span the depths of beams and girders are kept more nearly equal. In this case the typical girder *GI* has a theoretical span of 16 ft. 4 in. and is 21½ in. wide by 26½ in. total depth. The reinforcement consists of four 1⅛-in. square bars and fourteen ⅜-in. square stirrups. Two of these bars are run straight in the bottom and two are run in the bottom for about one-quarter of the span either side of the center line and bent up so as to be at the top over the support and run far enough beyond the edge of the support to develop the full strength in bond of these bars in order to resist the negative moment at this point. This girder is designed to resist the positive bending moment at the center caused by the concentrated loads from the beams at the third points and the uniform dead load of the girder itself. This moment is reduced to two-thirds



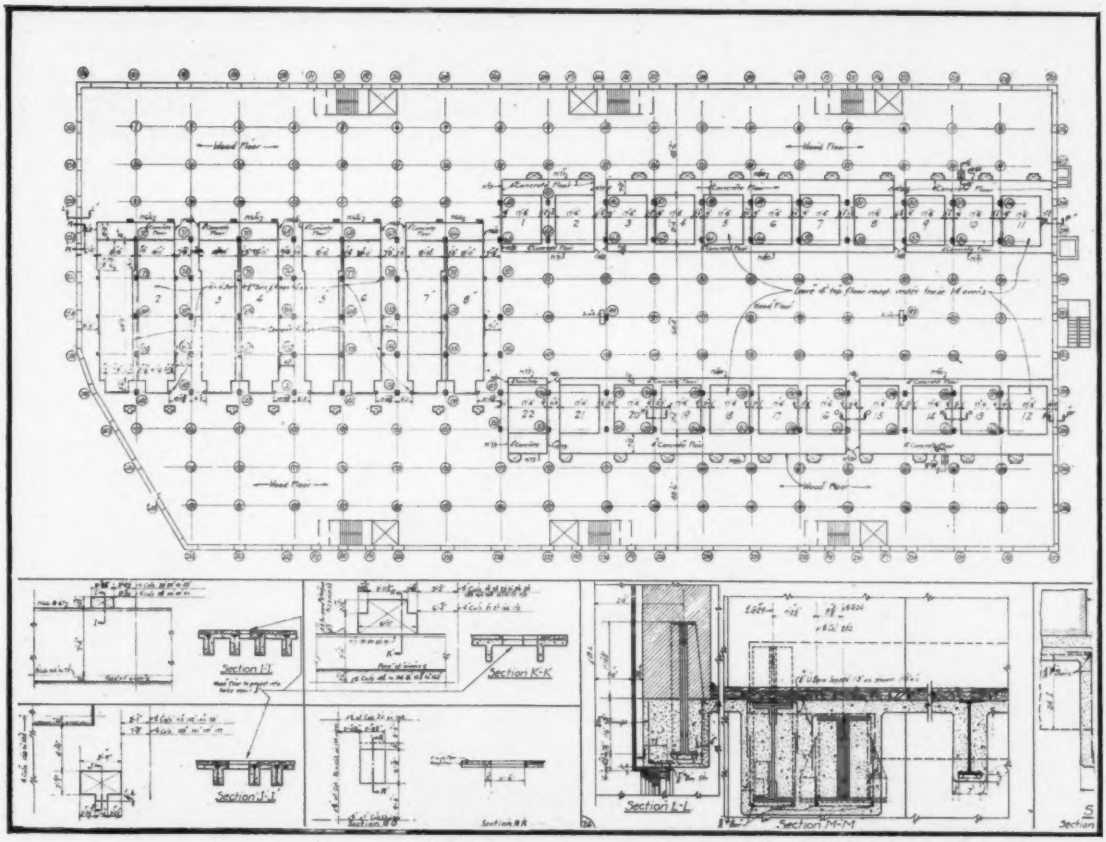
PROGRESS VIEW
Illustrating method of carrying up terra cotta facing

to allow for the continuous monolithic construction and the section and reinforcement at the support is designed to resist a negative moment equal to the reduced positive moment. It should be noted that the width of this girder is greater than that required to resist the allowable shearing stress of 150 lbs. per sq. in. This is done so as to permit the reinforcing bars to run by on either side of the steel

part of the beam provided its effective width shall not exceed on either side of the beam one-sixth of the span length of the beam nor be greater than six times the thickness of the slab on either side of the beam, the measurements being taken from edge of web."

This provision is generally taken advantage of in the design when beam and girder construction is used.

In the Loose-Wiles building the floor arches in



PLAN OF SEVENTH FLOOR
Showing location of English and American bake ovens

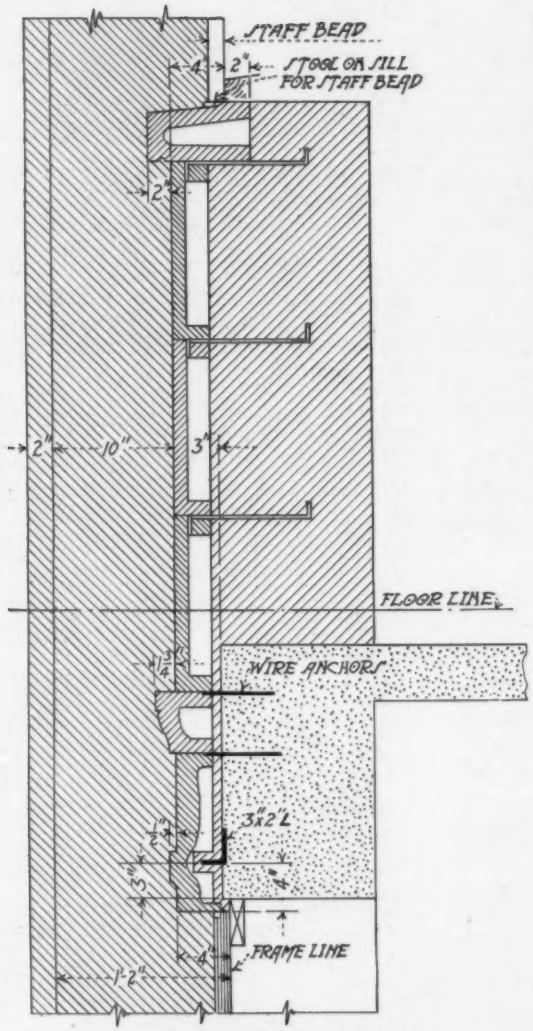
column cores. The typical beam *B*3 is 7"x20½" reinforced with ⅞-in. square bars and fourteen 5/16-in. square stirrups. These bars are placed in a way similar to the girder reinforcing bars above. In the calculation of the beams the formula $\frac{WL}{12}$ was used to obtain both the positive and negative bending moments to be resisted. The floor illustrated was designed for a live load of 200 lbs. per sq. ft.

The New York Building Code provides that,

"Where adequate bond between slab and web of beam is provided, the slab may be considered as an integral

the majority of the floors are 4 in. thick, reinforced with ⅜-in. square bars 9½ in. on centers. A ½-in. square distributing bar is placed in the center in each case and a 1" x 1" x ⅛" T-bar is carried by cast iron bridges over each beam, this bar serving to raise the slab reinforcement to the top at these points, as shown in the drawing, as well as in one of the photographs.

By many it may be thought that beam and girder construction was now but seldom used, being almost entirely superseded by flat slab construction. This, however, is not the case. Where the floor panels can be arranged approximately in squares, it will

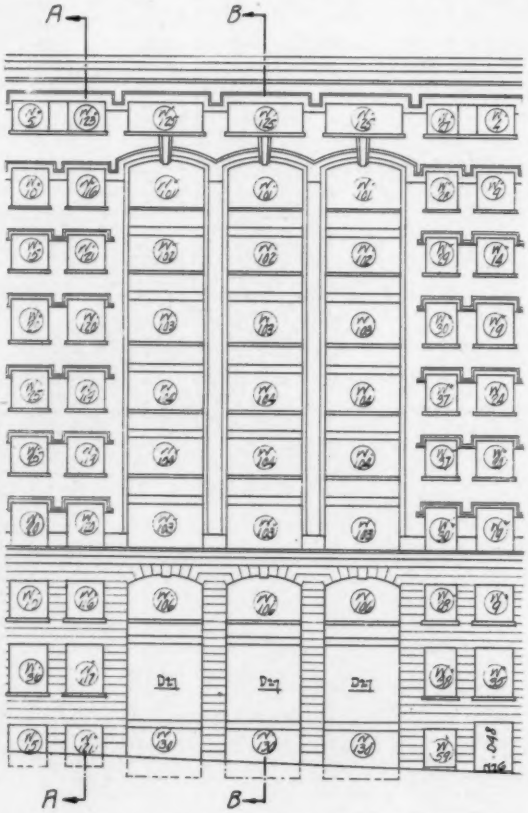


METHOD OF ANCHORING FACING TO BRICK SPANDREL WALLS

often be found that a flat slab design will prove the most economical. There are many buildings in which such an arrangement of columns is not possible. Remembering that primarily the building is erected to house a business, often of an industrial nature, the first condition to be met is the harmonizing of the constructional features with the system of operation to be employed. It will often occur that a certain number of machines of a certain size must be placed in a bay and this will determine the column spacing in that direction. Other features may fix the spacing in the other direction, with the result that rectangular bays are formed. In such cases, the beam and girder type will often prove both the most satisfactory and economical. In cases where heavy concentrated loads or heavy vibrating machinery are to be supported this type of construction may also prove best.

One of the factors which to some extent at least has tended to limit the height of reinforced concrete structures is the large proportions the columns assume in the lower stories. For industrial buildings up to six stories with nominal floor loading the column sizes will not usually prove objectionable. However, in buildings over this height or those in which heavy floor loadings occur, and also in buildings occupied for office purposes, hotels, etc., it becomes necessary to keep the column sections to minimum size. This can be accomplished in reinforced concrete construction by the use of steel cores, usually fabricated the same as for a structural steel building. In some cases cast iron cores have been used.

By fixing a limit to the size of column, it is possible to make use of reinforced concrete columns until the loads bring the column to the maximum size permissible, and below this level structural steel cores can be used. This was done in the Loose-



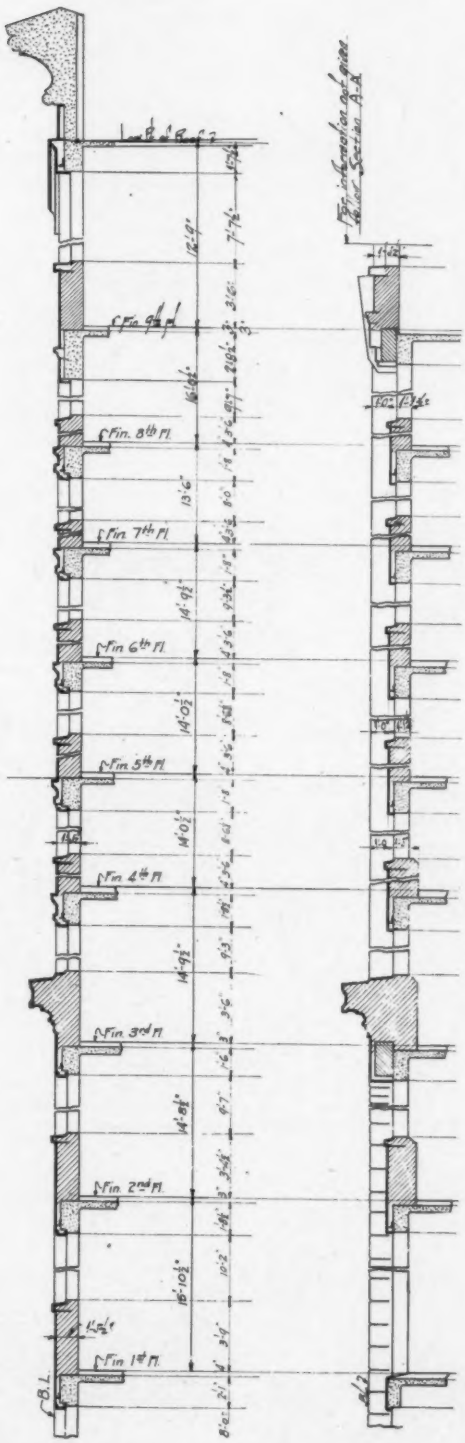
PORTION OF QUEENS PLACE ELEVATION

Wiles building, the steel cores extending from footing to seventh floor level. By resorting to this combination the columns in the first story do not exceed 21½" x 25" in section. These steel columns can be clearly seen in two of the photographs. This is by no means an unusual feature, and seems a logical design under the circumstances, since these columns each carry in the neighborhood of 1000 tons in the lowest story, which load would require a reinforced concrete column of from 3½ to 4 ft. in diameter. Where possible, however, it is more economical to use reinforced concrete throughout.

When steel cores are used it is safe to use a higher unit stress in the steel than would be permissible were the steel not encased in concrete. Most building codes make allowance for this. The New York code, for instance, provides as follows:

"In columns of structural steel, thoroughly encased in concrete not less than four inches thick and reinforced with not less than one per cent. of steel, the allowable load shall be sixteen thousand pounds per square inch on the structural steel, the percentage of reinforcement being the volume of the reinforcing steel divided by the volume of the concrete enclosed by the reinforcing steel. Not more than one-half of the reinforcing steel shall be placed vertically. The reinforcing steel shall not be placed nearer than one inch to the structural steel or to the outer surface of the concrete. The ratio of length to least radius of gyration of structural steel section shall not exceed one hundred and twenty."

Such steel columns, if not so encased would probably have a limiting unit stress of about 12,000 lbs. per sq. in. on the cross sectional area of the steel instead of 16,000 lbs.



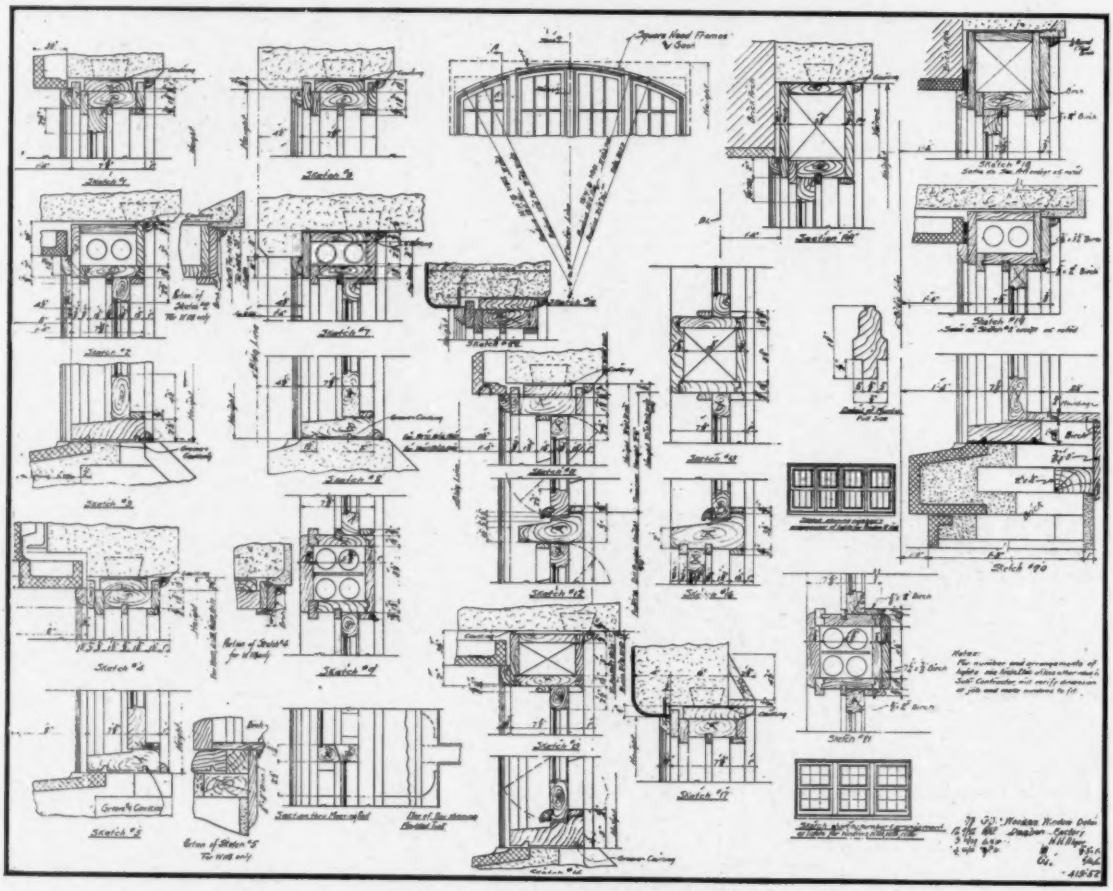
SECTION AA SECTION BB

The choice of materials for wall construction is largely a matter of individual selection or taste, governed, of course, by local conditions. The wall columns and girders will naturally be of reinforced concrete, and concrete walls, with perhaps some simple decoration, seem the logical selection. However, brick or brick faced with ornamental terra cotta are not uncommon materials. Where a brick or terra cotta facing is used over the concrete wall columns and girders, the detail of anchoring is important.

The walls of the building here illustrated are faced with white glazed terra cotta. The spandrel walls are of brick faced with terra cotta. The method of anchoring the facing is clearly illustrated in two of the drawings showing different wall sections. Sections *AA* and *BB* give a general idea of the wall construction while the partial sections to larger scale show the details. The terra cotta facing for the brick spandrel walls is anchored by ordinary galvanized iron strap anchors, while wire ties embedded in the concrete and an angle iron anchored to the concrete hold the tile facing to the concrete wall girders. An inspection of the section taken through a portion of the concrete wall columns will show that here the anchoring of the terra cotta became more complicated.

Horizontal chases 7/8" x 1½" spaced approximately 12 in. apart vertically were formed on the face of the wall columns when they were poured. These recesses are clearly defined on some of the wall columns in the photograph showing the lower stories already faced and the concrete exposed above. Here wire anchors 12 in. long and 8 in. on centers, placed prior to the pouring of the concrete, were embedded 6 in. in the concrete. These wire ties were used to hook over a horizontal ¼-in. anchor rod. When the tile facing was laid, a wire *U* was placed through the anchor holes in the terra cotta and this horizontal rod. As the placement of the facing progressed, the space between it and the face of the concrete was slushed in solid with mortar. It will thus be seen that after this mortar had set the facing became securely tied to the concrete structure. As the building has been up some years, ample opportunity has been afforded to show the efficiency of this method. This building was one of those visited by members of the American Society of Civil Engineers who attended the 1921 annual meeting, and the writer carefully inspected the present condition of the facing, and so far as could be seen, it has "stayed put."

In the majority of reinforced concrete buildings, a troweled finish cement floor is used. However, in some buildings, due to the very nature of the processes of manufacture to be carried on, a wood flooring is desired. In the Loose-Wiles buildings most of the floors of which are devoted to the baking and packing of various brands of crackers, a concrete floor was objectionable, and so in these stories wood flooring was used. One of the photographs shows this flooring in process of being laid. On top of the concrete floor arches a thin sand cushion was spread, and splined wood under flooring, 2 in. thick, laid directly on top of this cushion. The planks are fastened together by diagonal nailing. Over this



WOODEN WINDOW DETAILS

under flooring the finished maple flooring was laid. It is, of course, important when using this method that the sand be thoroughly dry prior to laying the flooring.

Solid steel sash windows are at present largely used in reinforced concrete structures, and in a later article details of placing this type of window will be described and illustrated.

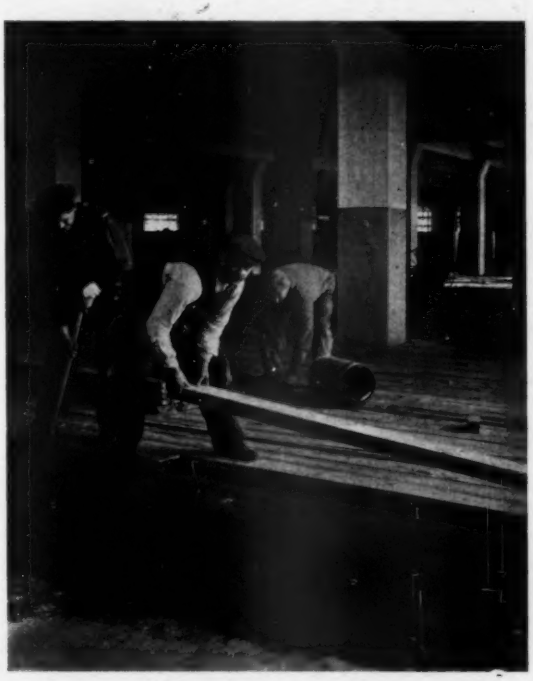
In the Loose-Wiles building wooden windows were used and the details of construction are shown in one of the drawings. In the second and eighth stories the openings have curved arches, but the window frames have square heads.

A study of the details will prove instructive. Wood nailing strips were embedded in the concrete for fastening both window and head and jambs, and to these the frames were nailed. It will be noted that all frames are caulked. This is an essential feature where wood frames used in reinforced concrete buildings, to insure against excessive air and water leakage.

A reinforced concrete moulded cornice was made use of, a detail of which is shown. This provides permanent construction and is vastly superior to galvanized iron cornice construction.

Due to the special use of this building, extensive ovens had to be installed. These extend from the seventh floor to the roof. One of the illustrations shows the manner in which sections of the floor slabs were omitted above the seventh floor to permit the proper construction of the ovens. Attention is directed to the fact that one row of columns just in front of the ovens has been entirely omitted above the eighth floor, making necessary the construction of special long span girders at the ninth floor and roof, shown in part at the left of the illustration above referred to. The peculiar construction necessary to support the ovens is indicated in the plan of the seventh floor. As the loads to be supported under the American or revolving ovens are very much in excess of those usually met with in common practice, the use of reinforced concrete construction under these ovens would have required girders of very considerable dimensions. Therefore, steel girders were substituted for this section of the seventh floor.

MONITOR OPEN OVENS
Showing special construction in floors below



METHOD OF LAYING THE WOOD FLOORING

In order to permit the greatest degree of flexibility in the operation of this plant, insofar as the baking operations were concerned, the seventh floor construction is so designed that at any time the English or endless conveyor type of oven, numbered from 1 to 8 at the left of the seventh floor plan, may be extended to the right, replacing some of the American ovens, should this seem desirable. On the other hand, the steel construction under the American ovens, numbered from 1 to 22 at the right of the plan, was continued so as to permit the extension of this type of oven so as to replace entirely the English oven, should experience warrant such a change. The floor construction under the English ovens is of heavy reinforced concrete designed to carry in the neighborhood of 1700 lbs. per sq. ft.

These points are brought out to show the possibilities of taking care of exceptional conditions which often occur in industrial buildings.

XUM

Preventing Cracks in Plaster Walls--Part 1

Results of Investigation by the Associated Metal Lath Manufacturers

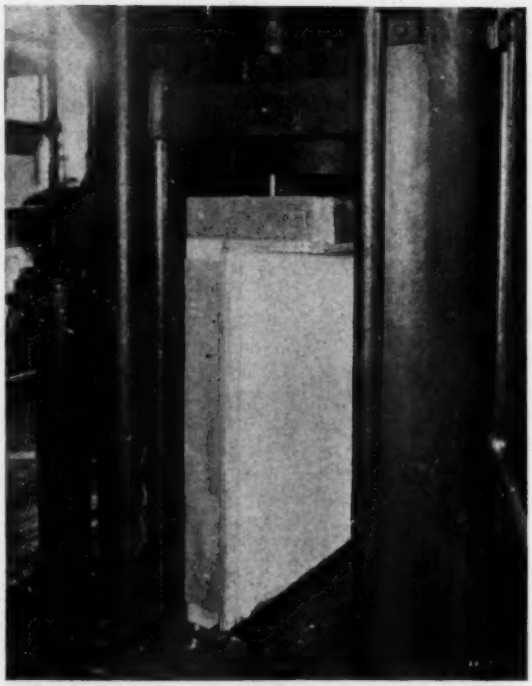
THE appearance of cracks in plaster walls, particularly in corners where two walls or a wall and ceiling join, has attracted considerable study and investigation in the past for the purpose of determining correct methods of applying lath and plaster so that such cracks might be avoided.

Recent tests have been conducted to show the effect that different arrangements of metal lath have upon the cracking tendency of plaster walls and to determine the best method of application of the lath to prevent cracks. These investigations have been divided into several parts, and what is known as Series A deals with cracks where ceiling and side walls join.

Six different forms of construction were used, namely:

1. Wood lath side walls; metal lath ceiling; metal lath extending 6 in. down side wall; metal lath attachments 6 in. from corner.
2. Wood lath wall; metal lath ceiling; no bend.
3. Metal lath wall; metal lath ceiling; metal lath corner; attachments 6 in. from corner.
4. Same as 3 except attachments are right up to corner.
5. Metal lath wall; metal lath ceiling; joint at corner, not bent over. No. 18 gauge iron ties were once between each pair studs.
6. Wood lath side wall; wood lath ceiling.

LOAD APPLIED ON CENTER STUD



SHOWING TEST SAMPLE SUPPORTED ON END STUD

The samples used in these tests consisted in each case of a full sized section of wall and ceiling. They were made up of three 2" x 4" hemlock studs, spaced 16 in. center to center. The height of the wall was 36 in. and the width of the ceiling portion was 18 in. The sample was 34 in. deep. The plaster was used in the proportion of 2:1 of sand and gypsum plaster. Two coats were applied on the wood lath and three on the metal.

A brief summary of the results follows and shows that metal lath on wall, corner and ceiling with attachments right up to the corner is the strongest construction and permitted the greatest distortion before cracks first appeared.

RESULTS OF CRACK TEST.

Sample No.	Appearance of First Crack	
	Load	Deflection
1	4400	.11
2	4600	.17
3	5200	.22
4	....	.25
5	3000	.16
6	....	.10

Current News

Happenings and Comments in the Field of Architecture and the Allied Arts

Paris Prize of the Society of Beaux-Arts Architects

The first preliminary competition of the 14th Paris Prize, open to all citizens of the United States under thirty (30) years of age on July 1st, 1921, will be held on February 26th, 1921.

For particulars apply to chairman, 126 East 75th street, New York City.

Architectural Water Colors

The Department of Architecture of the Massachusetts Institute of Technology has placed on view in the Rogers Building, Boylston street, Boston, a loan collection of architectural water colors by artists of distinction. Guardi, Turner and Ruskin are among the greater names. There are several Winslow Homers and Sargents and there is a little Venetian subject painted by Sargent's mother. Ross Turner, Ralph W. Gray, E. H. Rankin, W. T. Aldrich, Denman W. Ross, F. L. W. Richardson and Charles F. McKim are others of note. The original idea in forming the exhibition was to offer instructive and inspiring material to the students in the school, and it is an example that well might be followed wherever young architects are in training.

Oswald Speir

Oswald Speir, Executive Secretary of National Terra Cotta Society, died suddenly on the Twentieth Century Limited en route to Chicago on business at 6 o'clock Wednesday morning, February 2. The cause of death was acute indigestion. He was in the best of health at the time of taking the train.

A New Yorker, he had spent ten years of his life on the Pacific Coast.

Few men had a wider acquaintance among the architectural profession the country over than Mr. Speir. He was a pioneer of the Terra Cotta industry in this country. As a representative and sales manager of the old Perth Amboy company it is not too much to say that without the manufacturer's co-operation he supplied to his friend, Stanford White, the eminent architect, such architectural masterpieces as Madison Square Garden, Judson Memorial Church, the Herald Building and Parkhurst Church and others might not have been possible. These buildings, endeared to New Yorkers and famous over the world, mark the renaissance of American architecture, in bringing about which Mr. Speir contributed directly.

Oswald Speir was born in New Orleans, La., August 18, 1864. After studying architecture for a year he entered the employ of the Perth Amboy Terra Cotta Company, with whom he continued until 1908, when he moved to Los Angeles to become local manager for the Pacific Coast Terra Cotta Manufacturers, Gladding, McBean & Co. While on the coast in 1918-19, as Vice-President of Pacific Marine and Construction Company, he took a leading part in the construction of concrete ships for the Emergency Fleet Corporation. He came back last June to serve the terra cotta industry with enlarged powers as secretary of the National Terra Cotta Society. Under his administration noteworthy progress has been made in the short time elapsed.

Mr. Speir resided in New York at 26 Gramercy Park. He leaves a wife and four children. He was a member of American Institute of Architects, New York Academy of Sciences, American Ceramic Society. His clubs were: Faculty, University of California; Jonathan, Los Angeles; Cuyamaca, San Diego; National Arts, New York.

Southern California Chapter's Officers

Edwin Bergstrom was unanimously re-elected president of the Southern California Chapter of the American Institute of Architects at the December meeting at the City Club. The other officers elected were: Henry F. Withey, vice-president; R. Germain Hubby, secretary; Robert H. Orr, treasurer; and D. C. Allison, director.

Georgia Architects Organize

The Georgia Chapter of the American Institute of Architects has elected the following officers for the ensuing year: President, Warren C. Powell; first vice-president, P. Thornton Marye; second vice-president, G. Lloyd Preacher; secretary, Arthur Neal Robinson; treasurer, Ernest D. Ivey:

chairman executive committee, Wm. A. Edwards. Mr. Preacher resides in Augusta, and all the other officers live in Atlanta.

Alabama Architects

The annual meeting of the Alabama Chapter was held in Montgomery on January 27. New officers were chosen as follows: George B. Rogers, Mobile, president; Bem Price, Birmingham, vice-president; Eugene H. Knight, Birmingham, secretary-treasurer; Frederick Ausfeld, Montgomery; D. O. Whildin, Birmingham, and Prof. Fred C. Biggin, Auburn, board of directors.

It was decided to have an Alabama Chapter exhibit at the May convention of the American Institute in Washington.

The Chapter will also undertake the collection of a series of slides on Alabama architectural subjects which will be exhibited nationally as well as in England.

The annual prize was renewed to the class in design of the department of architecture at Auburn. Steps are also to be taken looking to a better understanding between those representing architectural art and the general public.

Washington State Society Elects

The Washington State Society of Architects held its annual election in Seattle on December 7 and re-elected the old board of officers as follows: Messrs. Harry H. James, American Bank Building, Seattle, president; Clayton D. Wilson, Mutual Life Building, Seattle, first vice-president; Julius Zittel, Spokane, second vice-president; Watson Vernon, Aberdeen, third vice-president; Richard V. Gough, Okanogan, fourth vice-president; Edgar Blair, Epler Building, Seattle, secretary, and L. L. Mendel, Empire Building, Seattle, treasurer. The new board of trustees consists of Harry H. James, chairman; Frank H. Fowler, A. Warren Gould, Wm. J. Jones and R. H. Rowe.

Kansas Architects Hold Annual Meeting

The annual meeting of the Kansas Society of Architects was held January 21 at Topeka, Kans. The morning session was devoted to the reports of committees and the election of officers. During the afternoon John H. Kitchen, Kansas City, Mo., talked on "Co-operation Between Architects and Heating Engineers." A general discussion was held on "Should the Basis of Charging for Architectural Services Be Changed?" The speakers at the banquet in the evening included Tom McNeal, Topeka; Frank A. Slack, Beloit; Lorentz Schmidt, Wichita, retiring president; Bishop James Wise, Topeka. W. E. Glover of Topeka was the toastmaster.

The following officers were elected: President, W. E. Glover, Topeka; vice-president, Ed. Forsblom; secretary and treasurer, J. S. Stookey, Ottawa. Two new directors are C. W. Squires of Emporia and Cecil F. Baker of the faculty of the Department of Architecture of the State Agricultural College at Manhattan.

Wichita Architects Hold Election

The annual meeting of the Wichita (Kans.) Association of Architects was held January 20, when the following officers were elected: President, Ed. Forsblom (re-elected); vice-president, Godfrey Hartwell; secretary-treasurer, Glen H. Thomas. Plans were advanced and discussed for the establishment of a series of talks and discussion pertaining to architecture, to be given at the society's regular meetings. Various outside concerns or their representatives will be invited to talk before the meetings as well as the members.

Virginia Chapter, A. I. A., Names Officers

The Virginia Chapter of the American Institute of Architects held its annual meeting January 18 at the Jefferson Hotel, Richmond, Va. The following officers were elected: President, Fiske Kimball, University of Virginia, Charlottesville, Va.; vice-president, John Kevan Peebles, Peebles & Ferguson, Norfolk, Va.; secretary and treasurer, Charles J. Calrow, Calrow, Wrenn & Tazewell, Norfolk, Va.

Sargent Returns to Boston

John S. Sargent has returned from England and will continue his work on the decorations for the rotunda of the Museum of Fine Arts.

For a National Arboretum

A resolution for the establishment of a botanical garden and arboretum of not less than 1,000 acres near Washington, D. C., for the purpose of growing and classifying all varieties of trees and plants available to American horticulturists, was passed unanimously at the annual convention of the New England Nurserymen's Association at the American House, Boston. E. F. Coe is secretary.

The Ricker Library of Architecture

There has come to us an illustrated booklet of some seventy pages published by the Department of Architecture of the University of Illinois.

This is replete with interesting information on the early literature of architecture and modern architectural books. One chapter gives a comprehensive list of works on architecture recommended to students of architecture and available in the Ricker Library of the University of Illinois.

For a Omaha Art School

Introduction of a bill providing for incorporation of a board of trustees for an institute of teaching and learning, to be devoted chiefly to art, revealed plans for the construction of a magnificent fine art school by Mrs. George A. Joslyn. Property from Twenty-second to Twenty-fourth and Dodge streets probably will be used for the site of the school, which is expected to represent an expenditure of from $1,000,000 to $3,000,000.

Plan Permanent Buildings for 1926 World's Fair

Permanent buildings rather than gaudy temporary structures are advocated by members of the art jury of Philadelphia for the world's fair contemplated in 1926 on the 150th anniversary of the signing of the Declaration of Independence. Already ambitious plans have been proposed for an exposition unequaled by any heretofore held anywhere.

Our Imports of Art Works

In the eleven months ending with November the United States imported paintings, statuary and other works of art to the aggregate value of $25,782,842, as against $17,579,291 in the same eleven months of 1919 and $6,730,650 in 1918. The importation, contrary to general belief, was not as great as in the year or two before the war. During the same eleven months of 1913 our imports of such articles amounted to $29,273,341, and in 1912 to $53,286,218.

Philadelphia Architects Co-operate with Labor

Mr. D. Knickerbocker Boyd, former Secretary of the Institute, conferred with the council of the *Associated Building Trades for Philadelphia and vicinity* (composed of all branches of the industry except carpenters) and requested opportunity to address that body on the subject of bettering conditions in the building industry, which request was granted. He urged the need of closer co-operation between the various elements in the industry, that the mechanics might know better the aims of the architect, and that the architect might help to create in the mechanic a keener interest in his work and in the results sought for in the architect's designs, to the end that they might all help to develop themselves as instruments of service for the good of the industry.

He suggested that the Council provide opportunities for lectures on the crafts, plan reading, etc., and assured them of the co-operation of architects in such an undertaking.

The bricklayers promptly responded to the suggestion and under Mr. Boyd's active leadership a meeting was held at which a number of architects addressed the men, and offered their assistance and, as a first definite step in the program, a plan reading class was started. This was conducted by Mr. Victor D. Abel, architect, every Thursday night, starting with an attendance of about 100 men, which gradually increased to the capacity of the hall.

Instruction was given in the reading of plans, the meanings of indications of materials on drawings, dimension lines, the placing of windows, partitions, the working out of stairways and the relation between the drawings and the specifications.

In addition to this class Mr. Boyd arranged for speakers at as nearly as possible every regular weekly meeting of the union, with subjects of interest to the journeymen who were present to the extent of three or four hundred at each meeting, these talks being followed frequently by interesting open discussion.

Hotel Entrances

The big hotels of New York can no longer apparently afford to devote their fronts to displaying their purpose. One of the largest on Broadway is about to rip out its first floor and convert the space into fine shops. Thus the ambitious hostelries of Gotham promise to imitate a fashion long prevalent in the West, which has the virtue of preventing the interruption of the continuity of a shopping district. Hereafter, regretfully, the monumental character of buildings in those parts of the metropolis devoted to the retail trade of the city is not likely to be regarded. The architects will perhaps have to devote their skill to other parts of the city, where the tendency to lift the eyes above the level of a shop window is more pronounced than on Broadway or Fifth avenue.

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Art Appreciation Lacking

A lack of appreciation by Bostonians of the Museum of the Fine Arts and its treasures in statuary, ceramics and paintings was a subject of comment in the annual report of Morris Gray, president of the trustees of the Boston Museum of Fine Arts.

In that city of 748,000 persons, with a reputation as a center of culture, he pointed out that the visitors to the art galleries last year were only about one-third of the number of inhabitants.

Historic French Village Has American Aid in Memorial

The municipality of Barbizon, deep in the Fontainbleau forest and famous for its association with artists of the past and present, has, it is learned in special press dispatches, joined efforts with a committee of Americans for the construction of a monument to the French and American soldiers fallen in the war.

The French sculptor Revillion has been commissioned to execute the memorial which he has offered gratuitously. The townsfolk have contributed 8,000 francs and the American committee has organized to raise 15,000 francs needed to complete the work. The monument will be placed in the center of the village on ground formerly owned by the painter, Theodore Rousseau, and near the chapel.

The artist proposes to mount a bronze bust of the "Gaulois" on a rustic shaft formed of rocks from the forest. It will bear a plaque inscribing the names of Barbizon's sons killed in the war and a palm leaf and ribbon with the names of the French victories, Marne, Verdun, Rheims, Alsace and Lorraine. The general aspect will be in harmony with the quaint charm of the village so intimately linked with the lives of Millet, the painter, and Barye, the sculptor.

The American committee is composed of Ridgway Knight, president; Sidney B. Veit, secretary and treasurer; Alexander Harrison, Paul W. Bartlet, George Howland and Dr. A. L. Hipwell. The proposed dedication will be: "This monument was erected by subscription donated by the citizens of Barbizon and our American friends."

Rue de Rivoli Wants Skyscrapers

To make the Rue de Rivoli into a street of skyscraper apartment houses is the latest proposal offered as a remedy for the housing shortage in Paris, according to a recent press despatch. The street was built one hundred years ago, and the law which then compelled builders not to exceed a uniform height is still in force. The first step, then, will be to get rid of the law, and that in itself is likely to take considerable time.

Architects say that the houses as they stand can easily support several more stories, and the intention is, if a law giving the necessary powers is passed, to make the buildings of the whole street for a distance of more than a mile of uniform height. As it is now, the buildings are only four stories high. As the street faces the Tuileries Gardens, with houses only on the north side, the proposal, it is argued, might very easily be carried out without injuring the appearance of the famous street.

In view of the constantly increasing population of Paris and the limitation of possibilities of spreading outward, the need for buildings is beginning to be pressing. The authorities are likely, however, to prevent any building which would injure the beauty of the city.

Personal

J. A. Pitzinger has opened an office for architectural practice in Dallas, Texas, 607 Insurance Building. He has discontinued his connection with the architectural department of the General Motors Corp.

Joseph Hudnut has moved his office from 41 Union Square to 51 West 10th street, New York City.

Louis D. Grubb has moved from New York to Register Building, Room 20, Wheeling, W. Va. Manufacturers' information is desired.

G. Lloyd Preacher has admitted to partnership George Harwell Bond, J. F. Wilhoit and Nicholas Mitchell to practice under the name of G. Lloyd Preacher & Co., Healey Building, Atlanta, Ga., and Masonic Building, Augusta, Ga.

Clarence T. Myers, architect, and Kenneth D. Coffin, architectural engineer, have organized for the practice of their profession at 412 Traction Terminal Building, Indianapolis.

The architectural practice formerly carried on under the firm name of Bollard & Webster, 520 Paxton Bldg., Omaha, will be conducted in the future by James R. Webster at the same address.

Stiles S. Dixon has opened an office for the practice of architecture in the Horne & Ray Building, Fayetteville, N. C. Catalogues and samples desired.

T. C. Desmond Co. have removed to new offices at 26 Beaver street, New York.

Health Commissioner Invokes Millionaires

Dr. Royal S. Copeland, speaking recently before the Educational Alliance Forum, New York, said there is no city in the world where housing conditions are as bad as here. He said there are 100,000 more families than houses in this city which means that 100,000 families are living with other families.

Dr. Copeland told of having had a conference with fifty millionaires—bankers, trust company directors and financiers generally—and said that as a result a committee had been appointed by these men to look into the housing question with a view to furnishing more homes.

He stated further, that there are two classes who do not want to see more houses built—the real estate men and the savings banks.

He said there are $2,000,000,000 in the savings banks of this city, and one quarter of that sum would be sufficient to relieve the housing conditions.

School Building Program for New York

A school building program of $65,000,000 has been adopted at a meeting of the Board of Education and will be submitted to the Board of Estimate of New York with the request that action be taken as soon as possible. The lack of schools is creating an acute situation.

LeBrun Scholarship Award

The jury in the LeBrun Scholarship Competition for 1920-21, conducted by the New York Chapter A. I. A., has made the following awards:

Traveling Scholar—Oliver Reagan, New York City.

First Honorable Mention—Robbins L. Conn, New York City.

Second Honorable Mention—Edward S. Lacosta, New York City.

Third Honorable Mention—Charles J. Irwin, Brooklyn, N. Y.

The following men, whose names are given alphabetically, were mentioned by the jury for the excellence of their work:

Howard Stanley Atkinson, Philadelphia, Pa.
John S. Burrell, New York City.
Louis Fentnor, New York City.
J. Harold Geisel, Philadelphia, Pa.
Owen L. Gowman, New York City.
Carl W. Lason, Boston, Mass.
Benjamin Moscowitz, New York City.
John G. Schuhmann, New York City.
Edgar F. Stoeckel, New York City.

The interest in the competition was very gratifying, forty-one sets of drawings being presented, representing thirteen states, widely distributed throughout the country.

Publicity by Contractors

Instead of plastering a building job with a lot of signs advertising various sub-contractors, the general contractors in a number of cities are displaying one big sign containing the names of all the sub-contractors on the project. This new departure not only makes for neatness, but it gives all the concerns connected with the job an equal amount of publicity.

Hudson River to be Bridged

Papers of incorporation have been filed in Albany for the Hudson River Corporation. That is an important step toward the realization of the cherished dream of many years—the spanning of the Hudson and the connecting of Manhattan and New Jersey by a great bridge, the river span of which will be more than double the length of the river section of the old Brooklyn Bridge.

The entire plan is estimated to require seven to eight years' time and a total investment of about $200,000,000, of which approximately one-half will be represented by the bridge itself.

The colossal structure will hang suspended from towers higher than the apex of the Woolworth Building. The centre of its central or river span will be 165 feet clear above the surface of the water, as compared with 135 feet between the river and the middle span of the older structure. The new bridge is expected to accommodate fourteen railroad tracks in all, four on its upper deck and ten on its lower, and to have a traffic capacity of 600,000 persons an hour, as compared with 700,000 for all four of the East River bridges combined, which carry twenty-four tracks in all. The Hudson River bridge is to accommodate 12,000 vehicles, which is equal to the combined vehicular capacity of the Brooklyn, Manhattan, Williamsburg and Queensborough bridges combined, and on its upper deck will sustain 40,000 tons of vehicular freight by rail and truck.

Gustav Lindenthal, the well known bridge builder, is author of the present plan and will continue to be identified with it as engineer-in-chief.

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Weekly Review of the Construction Field

With Reports of Special Correspondents in Regional Centers

World Situation

RUSSIA continues to show stability, though no one speaks encouragingly of Russian trade. The Bolsheviki apparently have the situation well in hand.

Austria and the Balkans show little improvement. Conditions in Austria are desperately bad, due fundamentally to the political severance of Vienna from the territory of which it has been the industrial as well as political center. The immediate problem is to get the population of Vienna through the winter. Hungary, Roumania, Bulgaria and Jugo-Slavia are largely agricultural territory. Treasuries and food stocks are low, but there are fortunately no great cities to be provided with supplies.

Italy has quieted her most alarming disorders. Her treasury is in improved condition as a result of new taxation; the revenues of January, 1921, are reported as three times those of January, 1920. The note circulation of the Bank of Italy on October 10, 1920, was 15,238,000,000 lire, against 14,445,000,000 a year before, and 1,556,000,000 in 1914. With the increased revenues, this inflation should cease.

Poland has been prostrated by the struggle with Russia. The industrial and financial situation is very bad, with the currency depreciated almost to the vanishing point by the enormous issues of the past year. Ordinarily almost self-supporting in food production, Poland required importations in 1920, and socialistic experiments in state management of industries have added enormous confusion, the state railways having five times as many employees per kilometer as the roads of western Europe. No figures are available regarding commercial activity.

GERMANY is still unsettled and agitated. The 1920 crops were not good. The printed money has demoralized the currency and foreign exchanges. The railroads are a severe burden on the public treasury. Coal is lacking, but some improvement has recently bee nshown—the most hopeful sign of 1920.

The overshadowing problem is naturally that of indemnities. No sane man would think of predicting anything with regard to this matter.

Belgium and France show substantial progress in industrial recovery. Belgium, before the present depression, was back, on the whole, on a pre-war production basis. In France remarkable progress has been made. The first ten months of 1920 showed the value of imports to be 29,784,000 francs, as against 27,397,000,000 in 1919, and exports for the same period were 18,890,000,000, against 7,733,000,000 in 1919. Production of coal is increasing. A new internal loan has recently been successfully floated, aggregating 50,000,000,000 francs. By the aid of this the government has been able to reduce its indebtedness to the Bank of France to such an extent that the note circulation of this institution is lower than it was a year ago.

Great Britain has passed through several grave disorders, notably the coal strike, the settlement of which was the most reassuring sign in the British industrial situation. At the close of 1919, the government announced that the outstanding issue of exchequer currency notes, above cash reserves, would not be permitted to exceed £320,600,000 in the year 1920, and that pledge was observed. The gold stock of the Bank of England on December 1, 1920, was £124,991,291, against £91,790,369 on that date of 1919. On December 1, 1920, the adverse balance in foreign trade had been reduced about $600,000,000.

(*Special Correspondence to* THE AMERICAN ARCHITECT)

CHICAGO.—Chicago's building apathy continues here but there is a sign of improvement. The most encouraging harbinger of better days is the constant discussion of the great need for building. In this discussion, newspapers, bankers, contractors, homeowners, flatdwellers—everybody, seems to be taking part. It seems logical to expect, out of all this foment and discussion, a revival of building on an important scale.

Point is given to the need for homes and apartments by the battling back and forth between apartment owners and apartment dwellers. With the approach of May 1—Chicago's chief moving day, the battle becomes more acute. Renters say that the customary rule which permits sixty days in which to decide whether the occupants desire to retain an apartment or give it up is no longer allowed, but that spot judgment and next to instant decision is now insisted upon and that apartments which go under new lease beginning May 1 are to be rented at even higher rates than now prevailing, although flatdwellers have hoped that the peak had been reached and that moving day might witness some decline in rental values.

To offset rent raising, the number of panaceas that are being offered is large. There has been the suggestion to make apartment buildings public utilities

by special legislation and thus place them under the domain of the public utilities commission. Another plan, just now earning important headlines in the newspapers, is a plan to reassess apartment property valuations on the basis of revenue and thus increase the taxes of the landlords who are increasing their rents.

This plan meets with high favor with the apartment dwellers who having believed themselves gouged are anxious to see the gouge applied elsewhere, but the sophistry of the idea is being pointed out by less heated economists who explain that the suggestion really invites higher rents because it provides a method for a profiteering landlord to find absolution for his greed and thus relieve his conscience of any load that might otherwise accrue.

VERY naturally the landlords have their grievances, too, what with higher janitor services and more expensive upkeep, expensive decoration and all the et ceteras that go to cut the revenue of the apartment owner. Back and forth like a vehement contest of battledore and shuttlecock the argument goes, with more buildings the only possible way out of the situation, as far as the best industrial thought in Chicago is concerned.

Building permits continue to show no great preparation for apartment buildings, however, and the time is now getting so near the building season that if a building boom comes it will come with such a spurt as to unsteady conditions once more, just as they seem to have reached a fairly stable state.

A permit of interest, however, is that issued this week for the new Federal Reserve Bank Building, already in course of construction at La Salle street and Jackson Boulevard. The permit explains that the building will have four underground floors, the largest number of sub-basement floors in any of Chicago's buildings.

The building is to be 250 feet high. Because of the height of the main banking floor, the building will have only eighteen stories, but it will be almost as high as its next door neighbor, the Continental & Commercial Bank Building, which has twenty-one stories.

Among other building items of interest just now is the announcement that the Wrigley Building, Chicago's most conspicuous skyscraper will be finished ahead of schedule in spite of the delay incident to present day construction. The building was scheduled to have been completed by May 1, but the indications are that April 1 will see the structure finished, at least to a point where occupancy will be possible. As a matter of fact a board of directors of the Wrigley organization met in formal session in the building last week. The Wrigley Building was begun in March, 1920, and will cost when completed in the neighborhood of $3,000,000, which is a million dollars in excess of original estimates.

THE labor situation in Chicago and the middle west is showing some improvement. Wage schedules have not been lowered, but a greater individual efficiency is now noticeable in practically all building lines. Officials of a millwork cost bureau announce that 100 per cent. efficiency is now being received in the millwork industry and this testimony of better working morale has its echo in many other building lines.

The lumber and materials situation is but slightly changed from a week ago. Lumber is in very slight demand as far as spot purchase is concerned, though inquiry is showing a gradual gain. Wholesalers and manufacturers take this added inquiry to mean that there are better days ahead in the industry and that spring building may cause an improvement in prices. Manufacturers now claim that lumber is the cheapest of all building materials and is the one factor in the building complex which has satisfactorily readjusted itself to normal prices and conditions.

In materials, other than lumber, there have been some recent revisions. Wallboard, cement, plaster, sewer pipe, lime and hollow tile are items that have felt the shading of the readjustment period, reductions having been made without particular regard to manufacturing costs with an idea of stimulating building.

Some of these materials which enter into road construction as well as home building are expected to be favorably influenced by good roads building which is being discussed now with the idea of early activity. Illinois alone has sixty millions in bonds to be devoted to better roads as soon as constructions costs are slightly lower.

Prices in lumber and materials are about as follows in the Chicago market:

(*Special Correspondence to* THE AMERICAN ARCHITECT)

SEATTLE.—With eastern middlemen quoting off sheets with stock that is believed to have been placed in their hands by outside mills and weakness in the fir lumber market, building conditions suffered a slight setback on the week as a whole.

While the quotations on sheet metal such as is used in building equipment was more in spots than of a general nature, the general market is of so peculiar a temperament that buying orders were checked down. It seems to be one of the weaknesses of the present attempt to steady prices that as soon as confidence is restored in the rock-bottom price tendency of a certain commodity, immediately thereafter some minor agency hurls a value-trimming

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grenade and the situation is once more precipitated. This has been so repeatedly in fir lumber, and now it is happening in steel.

Jobbers are directing that no more sheets be shipped by water owing to the moisture difficulty. The all-rail rate from Pittsburg is $1.66½ per hundred pounds, against $1.13 by rail to the seaboard and water to Puget Sound, to which is added insurance and wharfage which brings the total to $1.25. The conditioning required on arrival practically offsets the difference, and jobbers are less inclined to take advantage of the theoretical rate by water.

The Corporation price holds in all sales of pipe. Stocks are as near to normal as desired under the uncertain spring building commitments. Three-fourths and halves are now about normal at warehouses.

Jobbers report collections fair both under the trade acceptance plan and open accounts, which is taken to forecast a brisk demand for building essentials.

There is plenty of cement, roofing, plaster wall board and brick. So far as the Pacific coast section is concerned, the cement shortage of the past year is over. The four plants of the state are operating full time.

Red cedar shingles have declined to the point where they are admittedly in direct competition with patent roofing, and jobbers in roofing report a decrease in the demand. Shingles beginning with resumption of cutting on Feb. 1 are being packed on the "square" basis, twenty shingles deep on both ends, four bundles to the square. Quotations to the trade today are $2.15 for clears and $1.95 for stars.

Conferences between officers of the Associated Industries, or the "American" or open-shop organization which comprises 95 per cent. of all employers in this territory and labor leaders during the week resulted in the announcement that building in this city can be done this season at 30 per cent less than last year.

Master Builders announce that with the new lower wage scale in the building trades effective this week that many building projects for Seattle, approximating $35,000,000, can now be undertaken. Architects in summarizing the needs of Seattle point to several Class A business, office and apartment buildings, factory buildings, warehouses and cold storage properties. It is felt certain that with a season's minimum wage established investments in the city will reach a total not approached since before 1914. The Master Builders' Association includes 66 leaders in this work in the city. On the new scale carpenters will get $6.40, building laborers $4.80, common labor $4, cement finishers $6.40, mortar mixers $5.60, hoisting engineers $6.40 to $7.20 and structural iron workers $7.20. These trades are the leading ones with which Master Builders have to deal.

Fir lumber declined slightly, with common dimension selling to the trade at $11. There are proportionate weak spots in vertical grain flooring, but other building sizes are steady. There is little eastern enquiry.

(*Special Correspondence to* THE AMERICAN ARCHITECT)

BOSTON.—Although there is still considerable irregularity in the general business situation in New England, the improved textile and general industrial situation here promotes the growth of confidence mentioned in recent reports.

When you look around for signs that the business tide is beginning to rise, numerous bright spots come to your attention, especially in the textile and shoe and leather trades. These were the first to feel the lack of public interest last Fall and are the first to recover under a stimulated demand for new goods. In textiles, it required only belief that liquidation in prices of goods and raw materials had run its course to bring in new orders. The best opinion in the trade is that liquidation in cotton goods is nearing the end of the run. The revival, therefore, is believed to be genuine and not artificial or transitory. Although every branch of the cotton goods industry is not yet involved, mills making ginghams, sheetings and the like are very active. For instance, one large distributing house states that its volume of bookings on spring business is the largest in its history. Reports that several mills are to begin a night shift to take care of incoming orders is a straw indicating the direction of the winds.

Statistics of building and engineering operations in New England show that contracts awarded during the week ending Feb. 1st, 1921, amounted to $1,189,500 as compared with $2,144,000 for the corresponding period in 1920; $233,000 in 1919; $2,049,000 in 1918; $1,793,000 in 1917; $1,479,000 in 1916 and $947,000 in 1915.

The strike of the 30,000 building mechanics still holds up every building operation of note in Boston and vicinity. It is expected that a settlement will come before the end of next week.

CHURCH OF S. MARIA DELLA SALUTE, VENICE